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Climate change, the media and the knowledge-inaction paradox

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Introduction

THE HISTORICAL era in which we live has been designated as the Anthropocene such is the degree of human intervention on the planet. At a time when the world population has reached 7 billion, we are witnessing a rapid environmental degradation, as suggested by indicators of biodiversity loss, habitat destruction, water scarcity and distribution of pollutants. As a systemic and multi-dimensional problem, climate change stands as a strong symbol of human impact on the environment. Scientific research has shown unambiguously both the anthropogenic nature and the severity of the problem (e.g., IPCC, 2007a), and several recent studies suggest that its impacts could be more devastating than what is indicated by the projections of the Intergovernmental Panel on Climate Change, with the possibility of approaching irreversible 'tipping points' (e.g. Hansen,

2007; Kiehl, 2011; Shakhova et al., 2010). While the likelihood of large-scale negative impacts of climate change continues to rise and consensus increases around this, various social forces, and policy-makers in particular, continue to stall effective transformations to abate GHG emissions.

The starting point for this chapter is the realization that while there are increasing signs that climate change presents enormous threats to life as we know it very little is (or has been) done about it. For a number of years, there has been a significantly high level of awareness around the world regarding the fact that we are faced with a series of environmental problems. Most people consider that climate change is the most serious of those (e.g. BBC/PIPA/GlobeScan, 2007; European Commission, 2011). Tackling climate change would require fundamental transformations and substantial cuts in modes of energy generation and use. It is known that this transition should begin as soon as possible to avoid the worst impacts of the enhanced greenhouse effect. However, despite the increasing availability of information, the world has not been making progress towards putting in place effective responses to climate change. How do we reconcile awareness of the problem with acceptance of the system of social, economic and political practices and relations that generate that problem? This chapter aims to contribute to understanding this *knowledge-inaction paradox*by focusing on the media, a privileged space for negotiation of the meaning of social problems, and examining the extent to which the media may contribute to political immobilism and the continuation of business-as-usual.

Notwithstanding (occasional) earlier references to the issue, climate change has been under the media spotlight in many countries since the late 1980s (cf. Carvalho and Burgess, 2005; Carvalho et al., 2011; Mazur, 1998). This prolonged mediatization has certainly influenced social representations of climate change and of climate

change politics. Contributing to understand the ways in which the media have socially constructed climate change and the implications this may have for the choices that are (to be) made is an important goal for communication scholars. In this chapter, I argue that mainstream media discourses have generated a symbolic terrain that promotes inaction, reinforcing the current socio-economic-political system and the habitual practices of energy use and GHG emissions. Three themes will be analyzed: remaining denialism towards the scientific consensus (i.e., the continuous expression of skepticism and the organized rejection of the growing scientific consensus regarding the need to act on climate change); alarming climate change and alarmist - optimistic media discourses (i.e. the media-created image of climate change being split between over-dramatization and unfounded optimistic); and the hegemony of techno-managerial practices and of sustainable development discourses (i.e. the prevalence of technical and managerial 'solutions' to climate change and of ambiguous discourses on sustainable development). All these aspects shed light on the knowledge-inaction paradox that has been referred above and the roles of the media.

Remaining denialism towards the scientific consensus

In its latest Assessment Report, the Intergovernmental Panel on Climate Change (IPCC) maintained that 'warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level.' (2007a: 2). In reviewing the research conducted on climate change in multiple scientific disciplines, the IPCC regularly produces a summary of the state of scientific knowledge, which is carefully examined and thoroughly discussed until it meets the approval of representatives of all participating governments. Reflecting the accumulation of knowledge over the last three decades, with each Assessment Report,

the IPCC has offered a graver image of climate change infused of a growing degree of certainty.

The First IPCC Assessment Report (1990: 2) claimed that '[n]atural terrestrial ecosystems *could* face significant consequences as a result of the global increases in the atmospheric concentrations of greenhouse gases and the associated climatic changes' (my emphasis). It employed a similarly cautious language regarding impacts on oceans and coastal zones, human settlements and several other domains. Since then, the IPCC has successively increased its confidence in the detection of impacts of climate change. In the Fourth Assessment Report, it stated that it had *high* to *very high* confidence of significant impacts of climate change on natural systems, hydrological systems and biological systems (IPCC, 2007b). *High confidence* is defined as 'about 8 out of 10 chance of being correct' and *very high confidence* as 'at least 9 out of 10 chance' (p. 21).

Anthropogenic contribution to climate change has also been asserted in increasingly certain terms. The Second Assessment Report asserted in 1996 that the 'balance of evidence suggest[ed] a discernible human influence on global climate.' (IPCC, 1996: 4) The latest Assessment Report maintains that 'most of the observed increase in global average temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations.' (IPCC, 2007a: 5) (emphasis in original). In this document, 'very likely' refers to a '>90% probability of occurrence' (p.3) of an outcome or result. Moreover, based on thousands of data series and increasingly sophisticated scenarios, the IPCC has successively raised the upper limits of projected warming in the 21st century, which is 6.4 °C in the Fourth Assessment Report.

There are other indications of a significant consensus on climate change and anthropogenic warming. In a well-known review published in 2004, Naomi Oreskes analyzed the abstracts of 928

articles on climate change published in refereed scientific journals and found that none contradicted the claims of the IPCC on anthropogenic climate change. Moreover, Oreskes stated that 'all major scientific bodies in the United States whose members' expertise bears directly on the matter have issued similar statements' to those of the IPCC (2004: 1686).

Against this background, mainstream media in several countries have created a picture of divisiveness and contention in the scientific community regarding anthropogenic climate change. This is the case of the USA, Australia and the United Kingdom (e.g. Boykoff and Boykoff, 2004; McKewon, 2012; Carvalho, 2007), all of which have important contributions to the global greenhouse effect. Probably the most important case, given its contribution to global GHG emissions, the United States' media have repeatedly been shown to over-represent the claims of the so-called 'skeptics', who argue that climate change is not taking place or that it is due to natural factors. Climate 'skeptics', often also called 'denialists' or 'contrarians', tend to have no relevant professional credentials nor produce research that is recognized as valid by the scientific community. However, Antilla (2005) found that both US newspapers and news wire services, such as the Associated Press, gave them a large visibility. News wires have a key role in propagating ways of reporting across all types of news media, which adds to the seriousness of these findings. In a widely cited study, Boykoff and Boykoff (2004: 129) showed that in 52,65% of stories in the US prestige press between 1988-2002 'balanced accounts prevailed; these accounts gave "roughly equal attention" to the view that humans were contributing to global warming, and the other view that exclusively natural fluctuations could explain the earth's temperature increase.' Boykoff (2008) found that over the period 1995-2004 the same trend was present in 70% of US television news segments across four of the most watched networks. These researchers claimed that this was due to journalists following the

professional norm of balance in reporting. In this case, balance meant bias as it significantly deviated from the scientific consensus. In another study, Boykoff and Boykoff (2007) argued that the weight of skepticism in the US media was also due other journalistic norms, such as dramatization, personalization and novelty, that pushed journalists to award a disproportionate attention to 'skeptics'.

Several studies have looked at factors that are external to the media and pointed to an extraordinary pro-activity of social actors that are hostile to climate policy in attempting to shape the public debate. McCright and Dunlap (2000; 2003) have described the ways in which conservative institutions promote doubt on climate change through policy studies, books, press releases, opinion-editorial essays, and advertisements. Numerous conservative think tanks have aligned with climate skeptics, often affiliated with the fossil fuel industry, to block the passage of any significant climate policy. Skeptical books were the focus of a study by Jacques, Dunlap and Freeman (2008): they showed that 92 per cent of those books published in the USA since 1992 were linked to conservative think tanks, which overwhelmingly espoused environmental skepticism. They concluded that these think tanks have contributed to weaken the US commitment to environmental protection. Oreskes and Conway (2010) compared denialism of climate change with the long campaigns carried out by industry to spread doubt and confusion regarding research that linked smoking to lung cancer, coal to acid rain and chlorofluorocarbons to stratospheric ozone depletion. By undermining public confidence in the scientific consensus and 'keeping the controversy alive' business interests and conservative think tanks succeeded, with the compliance of the mainstream media, to stall action for a long time.

In Australia, research has also shown that climate skeptics tend to get their claims extensively reproduced in the media (e.g. McKewon, 2012). In some cases, the distortion in the representation

of scientific knowledge reaches extreme levels as in the case of *The Australian* newspaper where, of 880 items published between 2004 and 2011, 700 items rejected the scientific consensus and the need for action on climate change (Manne, 2011 cit. by McKewon, 2012). McKewon (2012) has shown how a neoliberal think tank, the Institute of Public Affairs (IPA), which is strongly opposed to action on climate change, has acted as a powerful news source in Australia. This think tank conducts various activities aimed at the media, including publishing op-ed comments in the press, inviting journalists and editors to its lectures and seminars, and publishing books and a magazine. The analysis of articles from the IPA magazine and op-eds published in Australian newspapers by IPA staff, together with the analysis of newspaper editorials and opinion columns that gave positive coverage to a well-known Australian skeptic, indicates that conservative media very often offer a stage for IPA's 'fantasy themes', such as the notion that the environmental movement is a new form of religion that is intolerant and irrational.

In the USA or Australia not all the media followed the dominant trends described above. As McKewon (2012: 3) notes, the ideology espoused by each news organ is often a differentiating factor in discourses on climate change with denialism typically coming from those that 'promote core values of the political Right - free market capitalism, anti-socialism, privatisation, small government and deregulation' including 'opposition to industry oversight and environmental regulations'. In an extensive study of the British press, I have argued that the representation of scientific knowledge has been shaped by ideological cultures, i.e. shared values and worldviews that were dominant in different newsrooms (Carvalho, 2007). I found that the aspects of scientific progress that were selected for news reports, the kind of readings of climate change that they came to support, how forecasts were interpreted, and how uncertainty was represented were all associated with the ideological positions of newspapers.

Hence, while the *Guardian* and the *Independent* most of the time promoted the reliability of research that showed that climate change was taking place, the *Times*,which espouses a conservative ideology, often used uncertainty or disagreement to undermine the authority of science, to discursively dismiss the risks associated to climate change and, thereby, to de-legitimise or refute political actions that might alter the economic and lifestyle status quo (especially during the 1990s). The ideological divide in the British press has been recently confirmed in Painter's (2011) extensive study. Focusing on public views, Whitmarsh (2009) in turn reported strong variations in climate skepticism between voters in different British parties: Conservative, Liberal Democrats, Labour and Green in decreasing order.

Ideological factors are also at play in the USA where there is an association between political-ideological standings of citizens and concern for climate change (Zia and Todd, 2010), as well as a growing gap between Republicans and Democrats regarding the belief that the seriousness of climate change is exaggerated in the news (Dunlap and McCright, 2008). Feldman et al. (2012) compared climate change coverage in Fox News, CNN and MSNBC and found that in the first network doubters were more frequently interviewed than believers. They cite survey data that shows that Fox viewership is negatively associated with acceptance of climate change. Significantly, Republicans are more susceptible than Democrats to influence by television coverage of climate change, independent of how well a channel aligns with their views. This has a positive implication for the possibility of consensus-building as 'at least some Republicans, who as a group tend to be predisposed toward global warming skepticism, are less skeptical when exposed to information on the reality and urgency of climate change.' (p. 24)

It is also positive to notice that, just as there are important differences between media, so there are between countries. For instance, in Germany (Peters and Heinrichs, 2008), Portugal

(Carvalho et al., 2011), France, India, China and Brazil (Painter, 2011) skeptical views occupy very little media space. It is likely that a combination of socio-cultural, political and media-related factors (Painter, 2011) contribute to these international differences. Nevertheless, the fact that skepticism continues to imprint a large part of the media depictions in the countries examined in this section –United States, United Kingdom and Australia, all of which are key to the international politics of climate change– is likely to impede or slow down the adoption of effective responses to climate change. The confusion that results from this persistent denialism is well exemplified in the results of a US survey conducted in 2007. People were asked 'what comes closer to your own view - most scientists think global warming is happening, (or) most scientists think global warming is not happening, or there is a lot of disagreement among scientists about whether or not global warming is happening, or do you not know enough to say?'. Only 3% said 'it is not happening' and 48% said 'it is happening'. Most significantly, however, at a time when the IPCC had announced the conclusions presented above, 40% of the US public answered 'there is a lot of disagreement' (Yale, Gallup, ClearVision Institute, 2007).

Alarming climate change and alarmist - optimistic media discourses

Climate change is a domain where forecasting is crucial. Unlike other domains where what matters is knowing how things are, in climate change it is essential to have an idea of how things *will be*. Futurology necessarily involves a degree of uncertainty. This has opened the way to very different media representations of the future. In their analysis of the British press, Ereaut and Segnit (2006) found that there were two dominant 'linguistic repertoires' – an alarmist one and an optimistic one. The alarmist repertoire suggested that the world is inevitably lost due to climate change and that it is too late to do anything. The logical consequence is that we should just continue

with life-as-we-know-it and all the usual GHG emitting practices. The optimistic repertoire has two main variations. The first one promises that everything will be fine without any need to act, either because climate change claims are false, because the free market will solve climate change or because of some similarly 'passive' way of getting out of the problem. The second variation points to a happy ending *if* we act on climate change and suggests that technological options, small corporate actions or small behavioral changes can deliver the solution to climate change.

Although Ereaut and Segnit's (2006) proposal is simplistic, it calls attention to two opposing tendencies that can be found in the media. On the one hand, the media often disseminate optimistic views of climate change. Many –although by no means all– are linked to the denialist discourses discussed above that reject the scientific grounds for acting on climate change. On the other hand, there is an over-dramatization of climate change (and especially of its impacts) in many media reports. By over-dramatization I mean the depiction of extreme impacts of climate change as inevitable (when in fact we are talking about forecasts and there is a possibility that those impacts do not materialize if concerted mitigating action is put in place) and a distortion of the temporal scale (making extreme impacts seem much closer in time than what is likely to happen). Although the IPCC scenarios point to a global mean temperature rise of up to 6.4° C, such level and the worst impacts of climate change can still be avoided if aggressive mitigation measures are implemented; moreover, those impacts are not likely to occur in the next few years but in the space of several decades.

Media representations of climate change often suggest that we are faced with an eminent catastrophe and that there is nothing that can be done about it.

> 'The alarmist repertoire is typified by an inflated or extreme lexicon. It incorporates an urgent tone ('we have to act. Now. Today!') and cinematic codes, with images and ways of speaking that are familiar from horror and disaster films ('astonishing scenes that might have come straight from Hollywood' (Catt 2005).

It employs a quasi-religious register of doom, death, judgement, heaven and hell, using words such as 'catastrophe', 'chaos' and 'havoc'. It uses a language of acceleration, increase, intractability, irreversibility and momentum ('temperatures shot up', 'process of change… surged ahead', 'a tipping point beyond which break-up is explosively rapid' (Leake and Milne 2006)). It allows for no complexity or middle ground –it is simply extreme.' (Ereaut and Segnit, 2006: 13)

Some have referred to these kinds of media reports as 'climate porn' (Lowe, 2006; Hulme, 2009). They have an important position in the media-constructed images that circulate in various societies. Weingart et al. (2000) traced the evolution of meanings of climate change in Germany for two decades and pointed out that the term 'climate catastrophe' originated in the mid-1980s; it was first disseminated by *Der Spiegel* magazine and had an extensive influence on discourses on climate change. Doulton and Brown (2009) examined the British coverage of climate change and development and found that it was clearly dominated by a discourse of 'potential catastrophe', with developing countries appearing 'defenceless without the help of the West' (p. 191). In the USA, Foust and Murphy (2009) also found ample evidence of an 'apocalyptic' portrait of climate change (we will return to their analysis further down in this chapter).

Alarmist discourses are likely to have important implications for public understanding of and engagement with climate change. Studies

in the US, the UK and other countries have shown that the dominant imagery that people associate with climate change includes things such as melting ice caps, storms, floods, heat waves and other impacts that they classify as negative or very negative (Leiserowitz, 2005; Lorenzoni et al., 2006). In free word association exercises conducted in Portugal, people predominantly referred to notions of pollution, destruction, diseases, droughts and forest fires, as well as to the issues mentioned for the other countries (Cabecinhas, Lázaro and Carvalho, 2006; 2008). There were no mentions of things that people can do to address climate change, such as cycling, installing solar panels or turning down the heating. This was interpreted as meaning that people view themselves as (potential) victims of climate change but not as agents of resolution of the problem.

Perceived lack of agency was also identified in another study in association with common visual representations of climate change such as polar bears, industrial smoke stacks, flooded areas, and starving children and dried up lakes with dead fish (O'Neill and Nicholson-Cole, 2009). While these are often chosen by the media to convey the gravity of climate change, they were amongst the images that participants said made them feel *least able* to do something about climate change. Still, participants considered that those images (with the exception of polar bears) were the ones that made climate change feel the *most important* to them. In contrast, participants said that images of a low energy light bulb, a cyclist and a thermostat were the ones that made them feel *most able* to act.

O'Neill and Nicholson-Cole (2009) conclude that:

> 'dramatic, sensational, fearful, shocking, and other climate change representations of a similar ilk can successfully capture people's attention to the issue of climate change and drive a general sense of the importance of the issue. However, they are also likely to distance or disengage individuals from climate

> change, tending to render them feeling helpless and overwhelmed when they try to comprehend their own relationship with the issue' (p. 375)

They make the case against using 'fear appeals' because of the difficulties of sustaining fear in the long term; the fact that individuals may become desensitized to fear appeals; that fear may damage trust in the communicating organization; and that fear appeals may generate unintended consequences, such as denial or apathy. Hulme (2008) has also spoken of a 'discourse of fear' associated with the idea of 'climate as catastrophe' and has argued that this kind of media coverage may be counterproductive for involving the public (2007). Moser and Dilling (2007) make similar arguments.

Swyngedouw (2010) takes the implications of this form of depicting climate change further: by being presented in apocalyptic terms and reduced to a problem of CO_2 emissions, he argues, climate change has given rise to a hegemonic populist proposal that promises solutions within the structures of capitalism and the market economy. In this reading, alarmist discourses create favourable conditions for the emergence of optimistic discourses centered on the promises of a 'green economy'. As discussed in the next section, this helps the reproduction of the economic-political system.

One variety of optimistic discourses is centered on high-tech solutions such as geoengineering. These can also gain symbolic value due to apocalyptic visions of climate-altered futures: these `ultimate solutions' (…) are enlivened by the dramatizations of apocalyptic futures in which the only way to act seems to be to adopt spectacular techniques of/for control.' (de Goede and Randalls, 2009: 871).

Journalistic norms may play a role in the construction of alarmist images of climate change. Dramatization, for instance, is a known tendency in news making as a way of appealing to audiences (Boykoff and Boykoff, 2007); moreover, the media tend to look for

certainty rather than 'fuzzy' probabilities and often overemphasize that certainty (e.g. Smith, 2005). However, this kind of discourse also stems from other sources, such as non-governmental organizations and official agencies whose campaigns often overdramatize climate forecasts. Therefore, they are quite widespread and keep being promoted by different social actors. The research perspectives discussed above suggest that these alarmist messages are not conducive to action on climate change, something that the optimistic discourses do not require either, therefore keeping us stuck in the knowledge-inaction paradox.

One important question is whether all apocalyptic images of climate-altered futures should be abandoned. Several researchers argue in favour of investing on forms of communication that work as motivators of the public using meaningful, locally relevant and empowering symbols instead (e.g. O'Neill and Nicholson-Cole, 2009; O'Neill and Hulme, 2009). Others postulate that the dangers that climate change may bring onto the planet should be kept in citizens' sight. Based on existing scientific knowledge, Risbey (2008) maintains that there are grounds for alarming (rather than alarmist) discourses that point to the seriousness of the problem but also to possibilities of action. While noting that the 'apocalyptic tone of climate change rhetoric may not only encourage a feeling of despair in the face of impending disaster, but also contributes to skeptics' ability to discredit climate scientists as alarmists', Foust and Murphy (2009: 154) also remark that 'environmental advocates like Rachel Carson have successfully relied upon dire predictions of the world's end to provoke necessary action'. They identify two variations of the apocalyptic frame: 'a tragic apocalypse, characterized by "resignation" (Burke, 1984, p. 37) to a foretold ending; and a comic apocalypse, discernible through its more forgiving outlook on humanity "not as vicious, but mistaken" (Burke, 1984, p. 41).' The two frames differ in their constructions of agency, temporality, and telos. While in tragic

apocalypse, a catastrophic telos is unavoidable and outside of the scope of human agency, in the comic perspective humans are responsible for a course of action and can influence their future, which is more open-ended than in the tragic version. Foust and Murphy (2009) recommend that communication on climate change employ this second frame and is directed towards promoting human agency for correcting a mistaken path that leads to disaster.

Hegemony of techno-managerial practices and of Sustainable Development discourses

In the discourses that circulate in the public sphere –and particularly in mainstream media– climate change has recurrently been viewed through a techno-managerial lens, that is, as an issue that is amenable to technical solutions and management options. In many political and media discourses there appears to be a belief in science-based techno-fixes that would 'solve' climate change and allow for the maintenance of current lifestyles and forms of consumption. We are 'sold' fuel cells, solar-powered planes or mega-projects for wind energy, and told that these technological innovations will disseminate rapidly and substitute old forms of energy production and use, thereby creating a new 'low carbon world' (cf. Nerlich, 2012) where climate change is no longer a problem. In these discourses, the 'market' is offered as the key for the uptake of those solutions: sates can play a role in initiating the process of dissemination of technological innovations through financial and fiscal stimuli but it will be the free market who will determine their success or failure. With appropriate regulatory measures and other instruments for controlling emissions and managing climate change, we are told, climate change can be prevented and continuous economic growth can be promoted.

The primacy of the economy has marked international climate politics since its inception. It is in fact inscribed in the founding document, the United Nations Framework Convention on Climate

Change (UNFCCC), which states that its aim is to achieve stabilization of greenhouse gas concentrations in the atmosphere 'within a time-frame sufficient to (…) *enable economic development to proceed in a sustainable manner*' (my emphasis). However, the main drive for the development of market-based approaches to climate change was the Kyoto Protocol, signed in 1997. The Protocol created the so-called 'flexibility mechanisms', namely Emissions Trading (the possibility of selling and buying GHG emissions quotas), the Clean Development Mechanism (which refers to emission-reduction projects in developing countries carried out by countries committed to reduce or control their emissions) and Joint Implementation (which refers to emission-reduction projects in other countries committed to reducing or controlling emissions). These are market-based forms of managing a country's GHG emissions.

Kyoto's 'flexibility mechanisms' have opened the way to financial speculation and inappropriate implementation, and their efficacy has been severely criticized by several non-governmental organizations and other analysts. Yet, the language that is found in most public discourses still privileges market-based solutions. In the last few years, the main focus has been on the notion of 'green growth', an idea strongly promoted by political leaders and international agencies. 'Green growth' advances a new economic optimism that suggests the possibility of large financial gains from investments in 'environmentally-friendly' areas, such as renewable energies. This fits in with a discourse that has been labelled as Ecological Modernization and that draws on the discourse of Sustainable Development, both of which are discussed below.

Sustainable Development, explicitly inscribed in the UNFCCC, became the default option in mainstream 'greenspeak' (Harré, Brockmeier and Mühlhäusler, 1999) in the last couple of decades. As formulated by the World Commission on Environment and Development (1987), the discourse of Sustainable Development

advocated balancing three aspects: environmental protection, economic growth and social justice. However, as the notion of Sustainable Development spread and came to be employed by many different social actors in many different contexts, its original meaning was often diluted and it acquired a variety of nuances: ecologically sustainable, socially sustainable, economically sustainable, sustained economic growth, etc. Oels (2011: 8) has argued that in the last few years Sustainable Development has been 'redefined as 'climate-proofing' economic development'. In short, Sustainable Development became a rather ambiguous concept. It has been widely used by well-meaning progressive organizations but it has also often been used to 'greenwash' (Greer and Bruno, 1996) the image of faulty corporations and by everyone else between these two extremes. Ambiguity is in fact part of the strength of the notion of Sustainable Development as consensus thrives in relation to ambiguous, open-ended ideas.

Ecological Modernisation, a variant of Sustainable Development, converts environmental problems into economic opportunities. As Hajer (1996: 249) puts it: Ecological Modernisation 'makes the 'ecological deficiency' of industrial society into the driving force for a new round of industrial innovation. (...) Remedying environmental damage is seen as a 'positive sum game': environmental damage is not an impediment for growth; quite the contrary, it is the new impetus for growth.' Science and technology are presented as the source of solutions to 'fix' the environment while providing economic gains. This is a highly attractive prospect and it is not surprising that 'consensual' Sustainable Development and Ecological Modernisation have become hegemonic. Together with Luke (1995), I have previously argued that these ideas have a disciplinary rolein relation to more radical forms of environmental discourse and mobilization: because they are integrative and conciliatory, these discourses annihilate any possibility of opposition

(Carvalho, 2005). In Swyngedouw's words (2010: 228): 'the sustainability argument has evacuated the politics of the possible, the radical contestation of alternative future socio-environmental possibilities and socio-natural arrangements, and has silenced the antagonisms and conflicts that are constitutive of our socio-natural orders by externalizing conflict.'

Most media have strengthened the discourses of Sustainable Development and Ecological Modernisation as they naturalize and neutralize them. Any discussion about the viability of the promises of those discourses or of alternative ways of framing responses to climate change, including decreases in energy use through legislation, behavioural change and transformation of economic and political structures, is very rarely present in mainstream media. Sustainable Development and Ecological Modernisation thus appear 'natural', the only ('sensible') solutions to the problem of climate change. Moreover, the values that are inscribed in these discourses are suppressed making them appear neutral.

Based on an analysis of international press coverage since 1985, Nerlich (2012: 43) has observed a clear reproduction of the Ecological Modernization discourse: 'low-carbon technologies and low-carbon economies are now increasingly touted as roadmaps to a brave new *low carbon world* or *low carbon future*. (…) The strategic use of *low carbon* as a compound in industry and policy making (…) has created discursive frames linked to expectations of great future riches to be made and of technological fixes to climate change that can be 'bought'.' (emphasis in original) Carvalho et al. (2011) found a similar pattern in the Portuguese press, which has tended to amplify governmental promotion of renewable energies as *the* solution to climate change (and to the country's economic troubles). Koteyko (2012) speaks of a 'market-driven sustainability' regarding British media discourses on carbon emissions. She found that in recent years, the media have often set up…

> '… equivalences between the application of the marketplace instruments of carbon trading and investment and sustainability practices. Such reporting promotes recontextualisation (Calsamiglia and Van Dijk, 2004) of sustainability within the confines of corporate discourse through the use of carbon compounds and accompanying finance terms. Drawing on the environmental values on the one hand and the language of finance and accounting on the other, such newspaper stories reproduce neoliberal logics as a legitimate methodology for addressing the issue of global warming.' (p. 33)

This suggests that the media have helped the appropriation (some would say *hijacking*) of the discourse of Sustainable Development by business.

Yet, evidence of the failure of these approaches to deal with climate change is accumulating. Mitchell (2012: 24) has noted that 'scientific and political debates are dominated by a "technophilic optimism" that projects emission reductions from technological improvement that are not supported by the evidence' and pointed out the need for substantive measures to constrain population, affluence and consumption. A recent report of the United Nations Conference on Trade and Development (UNCTAD) has similarly offered a very critical view of the hype around 'green growth'. Noting that many 'economists and policy makers advocate a fundamental shift towards "green growth" as the new, qualitatively-different growth paradigm, based on enhanced material/resource/energy efficiency and drastic changes in the energy mix', the report argues that 'growth, technological, population-expansion and governance constraints as well as some key systemic issues cast a very long shadow on the "green growth" hopes and points out that it 'may rather give much false hope and excuses to do nothing really fundamental that can bring about a U-turn of global GHG emissions' (Hoffmann, 2011: 1). 'What is required', the author continues, 'is not a relative, but an

absolute decoupling of economic growth from MRE [material/resource/energy] throughput, and that at an unprecedented scale in a historically very short period of time' (p. 2). The transformations needed to achieve this are, predictably, extremely large and fundamental and include, according to this report 'democratization of the economy and cultural change' in respect for 'global equality of opportunity for prosperity' (p. 1).

When the media overwhelmingly sideline these aspects and reduce climate change to a Sustainable Development/Ecological Modernization frame they may be trapping citizens into false beliefs and preventing other forms of individual and collective engagement with the issue of social and political significance.

Closing remarks

The media are a space of confluence and negotiation of multiple understandings. Both the media and a variety of other social actors have attempted to determine the meaning of climate change from different political and ideological standpoints. Media(ted) discourses have helped create systems of intelligibility for interpreting and making decisions on climate change that tend to appear natural and neutral. This chapter has attempted to expose the arbitrary nature of dominant discourses and to understand their contribution to inaction despite growing awareness and knowledge of the risks associated with climate change.

In face of growing scientific consensus, a number of organizations continue to spread doubt and in several countries mainstream media continue to host those voices and to propagate denialism of climate change, thus building the symbolic grounds for inaction. Ironically, through overdramatization of risks and/or the dissemination of unfounded optimistic discourses, many media reports have contributed to apathy, denial and/or inaction towards climate change. Moreover, by amplifying techno-managerial solutions

and helping turn the discourses of Sustainable Development and Ecological Modernization hegemonic the media have helped produce a 'post-political' consensus where 'free market environmentalism' is the only discursive possibility. The governance of climate change has excluded democratic debate and decision-making. By failing to consider alternative views on the relation between humans and nature, and on relevant social arrangements, most mainstream media have legitimated and reinforced the existing social and political order.

Our common future depends on 'opening up new spaces to critical political imaginaries and debates' (De Goede and Randals, 2009: 874) that may counter the dominant (consensual) framing for addressing climate change. In the last few years, some climate activists, some social movements and some alternative media have distanced themselves from such framing and rejected the idea that solutions can be found within the existing structures. These are hopeful –albeit extremely feeble– signs towards rethinking the politics of climate change.

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